REMARKS

Claims 1-11 were presented for examination and were pending in this application. In the latest Office Action, claims 1-11 were rejected. With this amendment, claim 1 is amended. On the basis of the following remarks, consideration of this application and allowance of all pending claims are requested.

Claim 1 was amended to include the limitations from claim 6, which originally depended directly from claim 1. Because amended claim 1 corresponds to original claim 6, the previous rejection of claim 6 is now relevant to claim 1-10. In the previous Office Action, claim 6 was rejected as made obvious by U.S. Patent No. 6,105,662 to Suzuki in view of U.S. Patent No. 6,704,196 to Rodriguez et al. Applicant respectfully asserts that claim 1, as amended, is patentable over Suzuki in view of Rodriguez.

Claim 1 recites a cooling apparatus for a computer that is designed to carry heat from a CPU to a heat sink using a heat pipe (i.e., a conductive base plate over the CPU that is coupled to a heat conductor that carries heat from the base plate to a heat sink). The apparatus further includes a fan for dispersing heat from the heat sink, where the fan is configured to direct air over a power supply installed within the computer to remove heat from the power supply as well as the heat sink. The claimed invention thus provides an efficient way to transfer the heat generated both by the CPU and the power supply with the same airflow.

In making the rejection, the examiner cited Suzuki for the general disclosure of a cooling system that removes heat from a CPU using a heat pipe to transfer heat to a remote radiator element. But because Suzuki does not disclose passing the same airflow over a power supply, the examiner suggested the application of Rodriguez to Suzuki. Rodriguez discloses a rack-mounted computer that contains compartments in the computer chassis, where an airflow is directed through a compartment containing a CPU and then, eventually, through a compartment containing a power supply. The examiner suggested that it would have been obvious to one of

ordinary skill in the art to modify Suzuki with Rodriguez for the purpose of cooling the CPU and the power supply with the same airflow.

One problem with this rejection is that it fails to explain how these two references could or would be combined, structurally, to achieve the claimed invention. Essentially, the Office Action cites Suzuki for the existence of a heat pipe to draw heat from the CPU, and then it turns to Rodriguez for the feature of having the airflow drawn over the power supply as well. But this combination glosses over the actual disclosure in Rodriguez — in particular, the structure that Rodriguez uses to achieve this feature. Rodriguez directs an airflow in a compartmentalized chassis through a number of sequenced compartments. Electrical components placed in the compartments are cooled as the airflow passes through each compartment. Suzuki takes the opposite approach: Instead of bringing the airflow to the heat-producing elements, Suzuki brings the heat from the heat-producing elements to the airflow. These two approaches are in conflict.

Even assuming the results achieved by the claimed invention may be found in each of the cited references individually, that still does not mean the structures disclosed in the cited references could actually be combined to achieve the claimed invention. For example, Rodriguez directs air through the chassis using walls and placing the components in particular chambers. But applying such walls and rigid design rules to Suzuki would defeat the original purpose of Suzuki's heat pipe. As Suzuki explains, its primary object is to provide cooling of the components "without greatly limiting the freedom for designing the electronic equipment as a whole." (Suzuki, col. 3, lines 25-30.) The whole point of Suzuki's use of a heat pipe is to avoid constraining the arrangement inside the chassis. Rodriguez and Suzuki are thus structurally and logically incompatible in the way that the Office Action seeks to combine them.

Regardless of what they disclose separately, the combination of Suzuki and Rodriguez thus fails to inform the skilled person how to achieve the claimed invention. As such, Suzuki and Rodriguez do not render claim 1, or its dependent claims 2-9, obvious.

Claim 11 was rejected as made obvious by Suzuki in view of Rodriguez. Similar to amended claim 1, claim 11 recites that "the air flow is directed to pass over a power supply in the chassis, pass through a fan, and be blown by the fan over the heat sink to outside the chassis." Accordingly, claim 11 is patentable over the combination of Suzuki and Rodriguez for the reasons given above.

Lastly, an Interview Summary was received with this Office Action. Although the Interview Summary form suggests that Applicant must provide a statement of the substance of the interview under MPEP 713.04, Applicant respectfully notes that this interview was initiated by the examiner; therefore, the rules do not require that Applicant submit a separate statement of the substance of the interview.

Based on the foregoing, the application is in condition for allowance of all claims, and a Notice of Allowance is respectfully requested. If the examiner believes for any reason direct contact would help advance the prosecution of this case to allowance, the examiner is encouraged to telephone the undersigned at the number given below.

Respectfully submitted,
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